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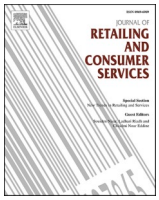

From likes to loyalty: Exploring the impact of influencer credibility on purchase intentions in TikTok

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ABSTRACT

In recent years, influencer marketing has gained significant prominence within the digital marketing landscape, particularly on platforms such as TikTok. This study seeks to investigate the factors that influence the credibility and trust of influencers in TikTok marketing campaigns, and their subsequent impact on customer loyalty, purchase intentions, and recommendation behavior. Using a two-stage research methodology that integrates the Stimulus-Organism-Response (SOR) model and the Commitment-Trust Theory, 880 active TikTok users participated in this study. In the initial phase, structural equation modeling (SEM) was employed to identify the most influential predictors. Subsequently, a neural network model was utilized in the subsequent phase to validate the predictors identified from the SEM analysis. The empirical findings provide robust confirmation for all the proposed relationships outlined in the theoretical model. These research findings carry significant implications for brands and marketing practitioners, providing them with valuable insights to Lindevelop effective influencer marketing strategies that capitalize on the vast potential of this rapidly expanding platform.

1. Introduction

The Internet has evolved into an essential tool that continually adapts to the demands of society. Presently, it functions as a virtual gateway facilitating connections and interactions with a diverse array of products, enabling multiple activities to be carried out from a single platform. The World Wide Web grants users unrestricted access to various forms of information while also affording them control over their exposure to advertising, allowing users to select commercial content at their discretion and engage with it at their preferred time.

The concept of Web 2.0, as coined by O'Reilly (2005), pertains to a website model founded on user-generated content and the widespread dissemination of knowledge. Within this framework, social networks have emerged as platforms where disparate users convene to form digital communities. This paradigm shift has brought about the emergence of influential figures, commonly referred to as influencers. These active participants of social media consistently share their personal encounters with products and brands, effectively establishing connections with a broad audience. Through their relatable approach and genuine demeanor, influencers cultivate trust and credibility among the general user base (Lou and Yuan, 2019). Influencers play a pivotal role in shaping the perspectives of users and providing guidance across various domains, including but not limited to fashion, lifestyle, photography, and travel (Casaló et al., 2020). Research has indicated that influencers foster more profound connections with their followers compared to celebrities, resulting in relationships perceived as more dependable and trustworthy (Johnstone and Lindh, 2022). Consequently, influencer marketing has proliferated across diverse platforms and networks (Ibáñez-Sánchez et al., 2022; Barta et al., 2023a).

Existing literature on influencer marketing has primarily focused on investigating the essential elements that contribute to enhancing trust (Alboqami, 2023), credibility, and opinion leadership (Akdevelioglu and Kara, 2020), as well as perceived brand control (Pradhan et al., 2023), and content authenticity as crucial factors for bolstering influencer influence (Casaló et al., 2020). Furthermore, it has explored the quantity and quality of influencer-generated content (Tafesse and Wood, 2021), both visual and verbal factors (Lee and Theokary, 2021), and even the anticipation of user engagement behaviors within the context

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of marketing campaigns (Xiao et al., 2023).

We ligned with this research focus, the Marketing Science Institute has identified the escalation of corporate investments in this novel communication format as a key area of academic interest for the period 2022–2024 (Marketing Science Institute, 2022). According to IPMARK (2023), influencer marketing is gaining increasing prominence in the budgets of advertisers, serving as a novel channel for reaching audiences in a natural and less intrusive manner. Moreover, data from the European Advertising Standards Alliance (EASA) indicates that advertising investments in influencers in Europe amounted to €3.68 billion in 2022, signifying an 18.3% surge from the previous year. In the medium term, the European institution anticipates a continued growth in these investments, with an estimated allocation of €4.25 billion in 2023, €5.33 billion in 2025, and €6.23 billion in 2027.

On the other hand, this research focuses on the social media platform TikTok, which has a large number of users in Spain, with a total of 18.84 million users over the age of 18. This number could reach up to 22.1 million when including underage users, accounting for almost 50% of the population (Statista, 2023a). In this regard, this application has been the most downloaded in the world (Forbes, 2023), surpassing others such as Instagram or WhatsApp, confirming its significance for video content creators. Furthermore, the global revenue estimates in recent years, according to recent reports, approach approximately 1 billion dollars, as depicted in Fig. 1 (Statista, 2023b).

In light of this new reality, the objective of this research is to analyze and understand the determinants of influencer marketing success on TikTok, given its current commercial potential (Wahid et al., 2023). Consequently, our research poses the following research questions.

RQ1. What are the determinants of credibility for influencers on TikTok?

RQ2. What is the role of credibility as a precursor to trust in the perception of influencers on TikTok?

RQ3. What is the role of trust in the perception of influencers on TikTok as a precursor to loyalty, purchase intention, and intention to recommend a product?

To answer these research questions, the latest studies on influencer marketing (via social networks) were reviewed. Table 1 provides a summary of the most recent theories employed in the analysis of influencer marketing in social media. As observed, the use of theories is diverse, and in most cases, the analyzed researches suggest a mixed application of some of these theories. We advocate for the utilization of the Stimulus-Organism-Response (SOR) model (Mehrabian and Russell, 1974) in alignment with the proposals posited by Barta et al. (2023a), Casaló et al. (2021), and Belanche et al. (2021). This theoretical framework has garnered robust support within the scholarly literature concerning influencer marketing. Additionally, in contrast to the aforementioned studies, our investigation integrates the Commitment-Trust Theory (CTT), a combination infrequently explored in other research domains (Zhang et al., 2022; Seçilmiş et al., 2022; Shang et al., 2023).

This study is directed towards a research gap that, so far, has been overlooked from a scientific perspective, despite its significant interest and growth potential, influencer marketing on TikTok and the factors influencing its success.

Next, the theoretical framework is proposed, followed by the development of the conceptual model and the research hypotheses and research methodology. Finally, the main results are presented, and the main conclusions are established together with the implications, limitations, and future implications of the research.

2. Literature review

2.1. The value of social media and influencers in today's business

The necessity for further research on how social media generates value for firms has garnered increased attention from researchers, particularly in the last decade (Rodríguez-Gutiérrez et al., 2023). While the measurement of social media's impact remains limited, its correlation with business growth has been acknowledged, along with its contribution to the exacerbation of inequalities among firms (Rojas--Lamorena et al., 2020). For instance, social media analytics enhances firms' dynamic capabilities, thereby fostering more resilient organizational performance (Hassani and Mosconi, 2022). The early studies on social media, dating back to the second decade of this century, emphasized the benefits that organizations could derive from its utilization (Rodríguez-Gutiérrez et al., 2023). Presently, social media serves not only marketing purposes but also functions in networking, crowdfunding, and information acquisition (Olanrewaju et al., 2020). The utilization of social media impacts various aspects of business strategy, including performance, strategic positioning, competitiveness, and

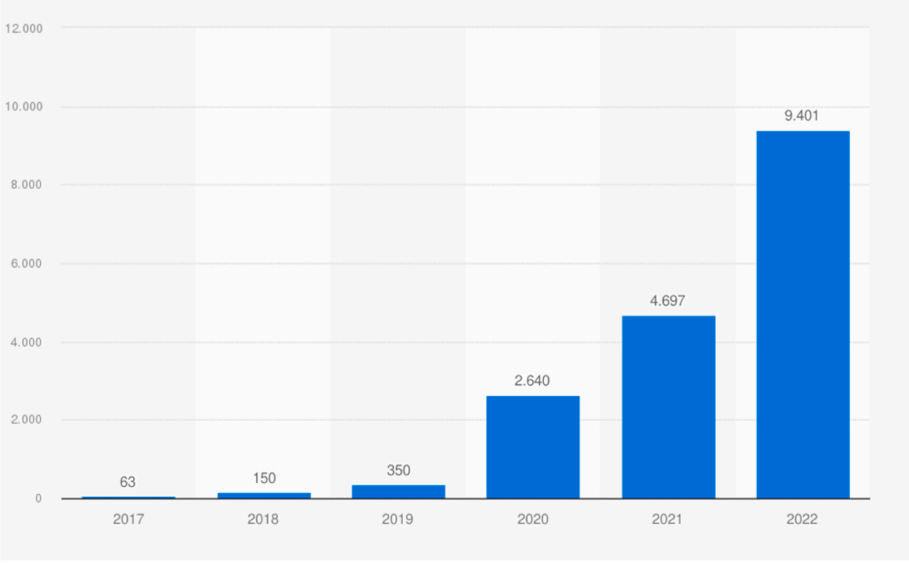

Fig. 1. TikTok's Worldwide Revenue from 2017 to 2022 (in billions of dollars)
Source: Statista (2023a)

Table 1
Literature review of theoretical models analyzing social media influencers (ordered Alphabetically).

Authors	Social Media	Proposed Theory	Principal Findings
Barta et al. (2023b)	TikTok	Stimuli-Organism-Response Model and Elaboration Likelihood Model	Originality and a sense of humor exert a significant impact on followers' hedonic experiences and their perceptions of the influencer's leadership on TikTok. These perceptions, in turn, influence followers' intentions to continue following the influencer's account and heeding their advice. On TikTok, the quantity and quality of content appear to play a less prominent role compared to other social media platforms. Instead, humor and the peripheral route of persuasion emerge as critical elements on this platform.
Belanche et al. (2021)	Instagram	Stimuli-Organism-Response Model	The results indicate that the perception of congruence between the influencer and the product has a positive impact on how followers perceive the credibility and attitude towards influencers. However, simultaneously, it negatively affects their perception of sponsored content. When followers perceive that influencers are being paid for participating in promotional activities, it diminishes their credibility. Nevertheless, it is crucial to emphasize that credibility is a pivotal factor in generating positive attitudes towards the influencer. Finally, both the perception of credibility and attitude play a significant role in driving positive behavioral responses towards the influencer.
Casaló et al. (2021)	Instagram	Stimuli-Organism-Response Model	The assessment of influencers' creativity emerges as a fundamental element on the Instagram platform. In this context, positive emotions and emotional connection play a partial role in mediating the influence of creativity on followers' interaction intentions.
Farivar and Wang (2022)	Instagram	Social identity theory	The results indicate that social identity has a positive impact on the effectiveness of influencer marketing, as measured by followers' purchase intentions. This effect is more significant than the effects of followers' interest alignment and the influencers' leadership in shaping opinions.
Gamage and Ashill (2023)	Tik Tok	Stimuli-Organism-Response Model	The commercial orientation of content produced by influencers diminishes the trust of their followers and adversely affects the perception of content credibility.
Hsieh (2023)	Instagram	Social identity theory, Cue consistency theory and Stimuli-Organism-Response Model	The results demonstrate that the consistent signals provided by influencers, specifically the consistency in the information and the image projected on social media, have a positive effect on followers' cognitive and affective identification with the influencers. Furthermore, it is emphasized that the factors influencing followers' purchase intent and willingness to make electronic recommendations also contribute to identification, both cognitively and affectively.
Lee and Theokary (2021)	Youtube	Elaboration Likelihood Model, Emotional Contagion and Language Expectancy	When influencers adopt interactive language styles or exhibit greater proximity with their followers, there is an increase in the number of visits and subscribers. Closeness and emotional resonance have a positive effect on how followers perceive the influencer's expertise or experience, indicating that traditional peripheral cues play a central role in this dynamic.
Lee et al. (2022)	Instagram	Uses and Gratifications theory	Authenticity, consumerism, creative inspiration, and envy motivate users to follow Instagram influencers. Materialism, considered as an individual trait, serves as a precursor to these factors. These elements, in turn, influence followers' trust and purchasing behaviors.
Masuda et al. (2022)	Instagram	Theory of persuasion	The study unveiled that the development of parasocial relationships had a positive and significant effect on purchase intentions, in contrast to other characteristics. Furthermore, a significant correlation was found between the formation of parasocial relationships and personal attributes.
Ooi et al. (2023)	Social Media	Source credibility theory, Interactivity theory and gratification-opportunities	The findings suggest that social media interaction has a negative impact both directly and indirectly on attitude outcomes. It is also observed that attitude toward the product or service acts as a mediating factor that explains the direct effect of attitude toward the social media influencer on purchasing behavior. Additionally, it is emphasized that the relationship between influencer credibility and attitude toward the product or service is significantly influenced by gender, with a stronger effect observed in men.
Wong and Wei (2023)	Sina Weibo	Social exchange theory and Elaboration likelihood model	The findings reveal that physical attractiveness, homophilic attitude, genuine self-congruence, and parasocial interactivity play a fundamental role in the influence exerted by influencers. However, only homophilic attitude, genuine self-congruence, and parasocial interactivity emerged as significant predictors of purchase intent.

innovation.

Nascimento and Da Silveira (2017) review on social media in business revealed that studies have focused on how social media generates knowledge and influences the collective intelligence of organizations to cultivate social capital (Boulos and Wheeler, 2007), enhances business processes (Huberman, 2008), shapes the consumer/producer relationship, with non-professional users offering pertinent information to organizations (Wilson, 2009), and facilitates the enhancement of citizen participation in governmental processes (Andriole, 2010), and the advancement of the e-learning process (Rodrigues et al., 2011) and citizen-generated content (Kavanaugh et al., 2014). Additionally, it is acknowledged that the use of social media has reduced the cost of news production and distribution, fostering the emergence of polarization, defined as the division into opposing factions of opinion, concerning commercial trends, markets, and preferences (Vrontis et al., 2022).

On the other hand, marketers can select from a wide array of social media platforms, among which Instagram remains a popular platform for influencer marketing globally, with the global market surpassing two billion dollars for the first time in 2020. Video-based platforms such as TikTok are also gaining traction, with the latter witnessing an increase from 35.5 million influencers to over 106 thousand in 2020 (Dencheva, 2023). Consequently, it is imperative to continue researching the enhancement of specific strategic processes for the attainment of companies' communication and tactical objectives through social media.

Social networks serve as bridges between brands and consumers through influencers. Two fundamental indicators underscore the importance of the influencer's role in business growth. First, from an academic perspective, the exponential and rapid growth of publications on influencer marketing has been evident over time, amassing over 7000 publications since 2003 (Ye et al., 2021). Second, influencer marketing spending in the US reached a record high of $3.7 billion in 2021, with an additional $1 billion rise in 2022 (Dencheva, 2023). As expenditure escalates, so does the size of the global influencer marketing platform market, projected to reach $21.1 billion by 2023 (Statista, 2023a). With influencers observed to drive brand visibility, engagement, and influence the purchase decisions of millions of users, further expenditure acceleration is anticipated in the future (Dencheva, 2023).

2.2. From influencer marketing to influencer

Influencer marketing involves the identification of influential individuals who can establish an authentic connection between a brand and its target audience. It encompasses both celebrities and non-celebrities who possess the capacity to endorse brands, products, or services through their social media platforms, thereby broadening their reach to potential consumers. Although the term 'influencer' is relatively contemporary, the concept of opinion leaders has been present for some time. Presently, influencers or opinion leaders can be categorized into two groups. The first group encompasses offline influencers, including celebrities and traditional opinion leaders. The second group comprises digital influencers, emerging from technological advancements and social media, such as social media influencers and prosumers.

Celebrities, due to their profession, are well-known individuals who leverage their substantial follower base to disseminate their message. Exploiting this large following, brands also strategize collaborations with them, transforming these celebrities into product endorsers (Condés and Alahama, 2016; Pavluković et al., 2019).

Opinion leaders, as initially defined by Katz and Lazarsfeld (1955), are individuals who possess the potential to exert influence over others within their immediate social circles. These individuals are characterized by their extensive personal networks and play a pivotal and influential role within them (Weimann, 1994). They are considered a valuable source of guidance for the selection of specific goods or services (Windahl and McQuail, 1993). Condés and Alahama (2016) argue that the salient feature of opinion leaders lies in their ability to act as the connective tissue of communication, drawing attention among their peers to noteworthy political, social events, and consumer choices.

In the contemporary digital environment, opinion leaders have emerged as independent entities, requiring no intermediary for brand representation. They are individuals who have gained prominence through their expertise in a particular subject matter, with the intent of disseminating information and exerting influence over their audience. Their expertise serves as a foundation for product endorsements (Cabrera, 2019).

On the other hand, influencers generate their content across various digital platforms, sharing their opinions and personal experiences (Huang et al., 2007), deemed as a new form of independent endorsers shaping audience attitudes through blogs, tweets, and other social networks (Freberg et al., 2011). Prosumers bear a profile similar to that of influencers but on a smaller scale, as they purchase products for personal use and provide their opinions to those in their immediate circles (Condés and Alahama, 2016).

Social media influencers are individuals who have garnered recognition within a community of users through their social networks (Farivar and Wang, 2022). They are acknowledged and categorized as experts in their field by their followers. From a brand perspective, these influencers are highly sought after as they have successfully cultivated and sustained a community, fostering loyalty among their followers through their communication style, and are viewed as a form of authentic advertising. They are highly esteemed due to their perceived neutrality, meaning they do not align themselves with any brand. Consequently, their recommendations are deemed sincere and genuine. To be classified within this category, an individual must have a minimum of fifty thousand followers on Instagram, twenty thousand on Twitter, or one hundred thousand on Facebook (Iglesias, 2017). Within this category, micro-influencers are also present. The distinction lies in their smaller communities, prompting heightened devotion among their followers, leading to increased communication (Del Olmo, 2013).

2.3. SOR model

The SOR model, initially proposed by Mehrabian and Russell (1974), elucidates the connection between environmental stimuli (S), emotional responses (O), and subsequent behavioral responses (R). This model asserts that human stimulation and behavior are intricately linked through an organismic component (Buxbaum and Buxbaum, 2016).

Building on this foundation, the SOR model has found applications in diverse contexts, including e-commerce (Lin et al., 2021), social commerce (Molinillo et al., 2021), retail apps (Abbasi et al., 2023), biometric payment (Liébana-Cabanillas et al., 2022), P2P payment (Irimia--Diéguez et al., 2023), online food ordering services (Liébana-Cabanillas et al., 2023), and social media influencer marketing (Sinha and Srivastava, 2023), among others.

In this study, the authors adopt the SOR model to comprehensively examine the impact of specific environmental stimuli, namely credibility factors encompassing physical attractiveness, reliability/honesty, and expertise, on trust (O). Furthermore, the study explores the subsequent effects of trust on influencer loyalty, purchase intention, and intention to recommend a product (R). Through this investigation, the study expands the scope of the SOR paradigm, providing a theoretical framework for comprehending consumer behavior within influencer marketing campaigns on the TikTok social media platform (Barta et al., 2023a,b).

2.4. Commitment-Trust Theory

The Commitment-Trust Theory (CTT), developed by Morgan and Hunt in the 1990s, emphasizes the significance of trust and commitment in interpersonal relationships, particularly within the business and organizational context. Morgan and Hunt (1994) formulated the classic theory of commitment-trust to facilitate the study of relationship marketing, with subsequent extensions proposed by other researchers into digital environments (Wang et al., 2016; Herzallah et al., 2022).

CTT posits that trust and commitment are essential components for fostering and sustaining enduring and successful relationships. According to this theory, trust is cultivated through three key dimensions: credibility, benevolence, and integrity. Credibility refers to the perception of the counterpart's competence and dependability, while benevolence encompasses goodwill and concern for mutual welfare. Integrity embodies ethical conduct and the fulfillment of commitments. Conversely, commitment is characterized by a willingness to maintain a lasting relationship and invest efforts in its preservation. It relies on trust, bolstered by satisfaction and dedicated investments in the relationship (Johnstone and Lindh, 2022; Brown et al., 2019).

The theory establishes an interdependent relationship between trust and commitment. Trust precedes commitment, as individuals are more inclined to be committed in relationships where trust exists. Conversely, commitment reinforces trust, as committed individuals are more open to trusting the other party and taking risks.

Furthermore, the theory addresses the implications of trust and commitment in the organizational context, arguing that they are particularly relevant in the relationships between organizations and their customers. Customer trust in an organization influences their transactional intentions and willingness to maintain a long-term relationship. Additionally, customer commitment to an organization results in positive behaviors, such as repeat purchases and word-of-mouth recommendations.

This theory provides a robust conceptual framework for understanding the development and maintenance of long-term relationships, which is essential within the proposed framework that specifically examines the relationship between users and influencers on TikTok (Chen et al., 2022; Lin et al., 2023).

3. Hypotheses development

3.1. Credibility as a determinant of trust in the influencer

It is worth noting that influencers, as discussed by Cabrera (2019), often lack formal advertising training and instead rely on personal experiences to present their arguments. As influencers shape public

opinion, they leverage their social networks and engage with followers to maintain credibility, accessibility, and intimacy. The value of their opinions on products or services lies in their perceived sincerity, authenticity, and close connection with their audience (Hearn and Schoenhoff, 2016). Hansen et al. (2011) emphasize the influential role of influencers as creators and innovators in branding, politics, and news dissemination.

In the context of this study, credibility refers to the extent to which the information source is considered trustworthy, competent, and reliable by message recipients (Rogers and Bhowmik, 1970; Petty and Cacioppo, 1986). It represents the recipient's perception of the truthfulness of the message source and is distinct from the message content itself (Wu and Wang, 2011; Chaiken, 1980). Ohanian (1990, 1991) proposes three dimensions of credibility: physical attractiveness, reliability based on honesty, and expertise. Physical attractiveness pertains to the influencer's pleasing appearance, as perceived by the audience (Ohanian, 1990), although Bower and Landreth (2001) note that physical attractiveness may not be universally effective across all product categories. Scholars such as Sokolova and Kefi (2020) have confirmed the impact of physical attractiveness on credibility, along with the attachment to the influencer (Kim and Kim, 2021). Reliability and honesty represent the consumer's confidence in the communicator's objective and unbiased information. Information provided by trustworthy and honest endorsers leads to more favorable attitudes and an increased likelihood of product purchase (Priester and Petty, 1995). Expertise, on the other hand, reflects the perceived knowledge or skill of the influencer by their followers, which enhances the accuracy and credibility of the information they provide (Hovland et al., 1953).

When a source is perceived as reliable, attractive, and knowledgeable, it can influence the attitudes and behaviors of the audience, as well as the perceived usefulness of the information. This is particularly relevant in the context of social media platforms (Weismueller et al., 2020). On the Internet, individuals are free to express and publish their opinions about products and services, often without disclosing their real identities (Schinler and Bickart, 2005). Therefore, users bear the responsibility of assessing the experiences and reliability of contributors to determine whether to adopt or reject the information presented to them. Building upon this understanding, and in line with Ohanian (1990, 1991), the following hypotheses are proposed.

H1. Physical attractiveness positively influences credibility.

H2. Reliability positively influences credibility.

H3. Perceived expertise positively influences credibility

Various studies address the relationship between the use of media and trust, acknowledging that the theoretical explanation is not entirely clear, and there is much yet to explore in this area (Gong et al., 2022; Singh, 2023). Furthermore, the mediating role of credibility has been examined in recent studies (Gong et al., 2022; Singh, 2023; Sokolova and Kefi, 2020). Gong et al. (2022) raised the direct relationship between message credibility and trust, specifically in the political realm. The authors affirmed the significant mediating role of credibility, maintaining that when media credibility is low, the information may not be considered accurate, fair, or credible. In other words, if political information from the media is perceived as credible, it is likely that political opinions will be adopted based on trust. Similarly, Singh (2023) confirmed the mediating role of credibility and also of trust, as, following previous studies on classical conditioning, they assumed that the credibility of a celebrity influences trust in the brand they endorse, leading to brand loyalty.

Trust assumes a critical role in marketing, directly influencing the establishment of enduring and mutually beneficial relationships (Sirdeshmukh et al., 2002). Particularly within the domain of influencer marketing, trust holds paramount significance, encompassing customers' confidence in the authenticity and actions of the influencers (Chetioui et al., 2020). This trust can be comprehended through two interrelated dimensions: perceived honesty and benevolence in the behavior of the influencers. Honesty entails a sincere commitment to fulfilling promises and demonstrating genuineness (Gundlach and Murphy, 1993). Conversely, benevolence embodies the belief that the influencer genuinely prioritizes the well-being of their audience without engaging in opportunistic behaviors (Larzelere and Huston, 1980; Lindskold, 1978), fostering a mutually beneficial relationship (Doney and Cannon, 1997).

Furthermore, the nature of compensation provided to influencers has been found to impact their perceived credibility. Petty and Andrews (2008) assert that consumers may perceive influencers who receive monetary payments as less trustworthy compared to those who solely accept free samples or discount coupons. The act of remunerating influencers with cash in exchange for promotional posts is often perceived as a transaction, potentially leading the influencer to compromise their readers' trust for financial gain (Fu, 2010; Hsu, 2010). Conversely, when influencers are compensated with product samples or discount coupons, readers perceive it as an opportunity for genuine product trial, rendering this type of arrangement more acceptable (Fu, 2010; Hsu, 2010).

Considering the intricate relationship between trust and credibility (Leite and Baptista, 2022), this study posits the following hypothesis.

H4. Influencer credibility positively affects trust in the influencer.

3.2. Consequences of trust in the influencer

In the current dynamic marketplace, comprehending brand loyalty and influencer loyalty has become increasingly vital for marketers. Brand loyalty, as defined by Oliver (1999), involves a commitment to consistently repurchase a specific product or service, irrespective of situational influences or marketing campaigns. Similarly, influencer loyalty reflects the dedication of followers to continuously engage with an influencer's content. Acknowledging the significance of these phenomena, this research seeks to explore their underlying factors.

Homophily, as defined by Rubin (2003), refers to the degree to which interacting individuals share similarities. This similarity fosters a higher level of interpersonal attraction, trust, loyalty, and understanding within a group. Consequently, celebrities and influencers possess the capacity to initiate trends and fashions that are embraced by their community of followers. The trust established in the influencer-follower relationship ensures a positive influence, compelling followers to maintain this connection and foster loyalty to the influencer (Kim and Kim, 2021).

By comprehensively examining the concepts of brand loyalty and influencer loyalty, this research aims to illuminate the crucial role of homophily and trust in nurturing consumer allegiance. The findings will offer marketers valuable insights for developing effective strategies that capitalize on these influential factors, ultimately propelling brand success and cultivating enduring connections with consumers.

H5. Trust in the influencer affects follower loyalty to the influencer.

The influence of followers' perceived proximity to influencers significantly affects consumers' purchase decisions. This perception of proximity, manifested through parasocial interaction, has been identified as a crucial determinant of purchase intention in scholarly literature (Lee and Watkins, 2016; Kim et al., 2015). Purchase intention refers to consumers' inclination or willingness to buy a specific brand in the future (Alcantara-Pilar and del Barrio-Garcia, 2017a; Alcántara-Pilar and García, 2017b; Huang et al., 2007). Prior studies indicate that consumers' positive attitude towards a product profoundly influences their behavioral intentions, including purchase willingness, willingness to pay a premium price, and product recommendations to others (Belanche et al., 2020). Furthermore, Lee et al. (2011) found a positive association between perceived credibility of online reviews and purchase intention, while Kim and Kim (2021) argue that followers' trust in

influencers results in a rewarding perception of the relationship, thereby increasing their intention to purchase influencer-endorsed products.

H6. Trust in the influencer positively affects the purchase intention of their followers.

If customers form favorable perceptions of a product or brand, they are more likely to engage in positive word-of-mouth and endorse it to others (De Matos and Rossi, 2008). As a result, the intention to recommend a product act as a predictive determinant for consumers' expression of positive evaluations (Casaló et al., 2017). Several research works have suggested that trust plays a vital function in stimulating recommendations and constitutes a fundamental attribute of truly loyal consumers (Barreda et al., 2015; Kassim and Asiah Abdullah, 2010). Trust perceptions significantly influence behavioral intentions (Liu et al., 2004), such as the intention to recommend a product. Based on these premises, we put forward the following hypothesis.

H7. Trust in the influencer positively affects the intention to recommend the product.

The theoretical mode is mentioned in Fig. 2.

4. Research methodology

4.1. Sample

In order to estimate the proposed research model in the study, an online questionnaire was developed and distributed resulting in a sample of 880 (see Table 2).

4.2. Data collection and measurement scales

In order to accomplish the study objectives and assess the proposed model, an extensive literature review was conducted on influencer-related topics. Drawing from the theoretical framework, a questionnaire was developed using Qualtrics software, incorporating established scales from prior research that were modified to align with the research goals.

In order to ensure the accuracy and reliability of the data collected, we took several precautions to account for the diversity of language backgrounds among the survey respondents. Firstly, we provided the survey in multiple languages, accommodating participants who might not be proficient in English. Additionally, we employed a team of bilingual experts to review the translations and confirm the clarity and consistency of the survey questions and instructions.

Furthermore, we conducted pilot tests with a small group of participants to identify any potential language-related issues or misunderstandings. These pilot tests enabled us to make necessary adjustments to the survey before its wider distribution, thus enhancing the comprehensibility and validity of the data collected.

The questionnaire encompassed socio-demographic inquiries to gather sample data, including occupation, educational level, and gender. The survey used a 7-point Likert-type scale with response options ranging from 1 (strongly disagree) to 7 (strongly agree), following established literature.

Physical attractiveness in the social psychology literature describes how attractive or pleasing a person's physical characteristics and aesthetic beauty are (Sokolova and Kefi, 2020). Physical attractiveness is defined as the perceived attractive, classic, handsome, elegant and sexy image of the influencer. Reliability is the perception of trustworthiness, honesty, loyalty, sincerity and faithfulness conveyed by the influencer. The operational definition of credibility includes several aspects: it is the degree to which the influencer's experience is perceived, as well as the effectiveness and reliability of the influencer, the belief that the influencer cares about their followers, and whether they regularly update their content. Expertise: this would be defined as the degree to which the subject perceives how specialised the influencer is in a subject, how much experience they have in the sector, and whether they are enterprising, qualified and talented. Trust: the degree to which the subject perceives that the influencer usually delivers on their commitments, whether the information provided by the influencer is sincere and honest, and whether the influencer's promises can be trusted. Loyalty: is defined as the degree to which the subject believes the influencer thinks like them, shares their values, the likelihood of continuing to interact with them on other social networks, and their stated desire to watch videos and other content from the influencer. Intention to buy is defined as the process by which consumers find, select, buy, use, evaluate and eliminate products or services to meet their needs and requirements. Operationally, is the degree of intention to buy products promoted by the influencer, to encourage others to do so, and to buy the brand promoted by the influencer the next time a need is expressed. WoM is defined as the degree to which a follower might consider or intend to recommend the product shown by the influencer, the likelihood of doing so, and even the degree to which they actually decide to do so. Detailed information on the specific items utilized to assess the variables under analysis is provided in Table 3, which includes the scales used, their sources, and any modifications made for alignment with the research goals.

To ensure the rigor and comprehensibility of our questionnaire, we conducted a pretest involving a diverse group of participants. Specifically, we engaged 10 experts in the field and 100 active TikTok users, selected based on specific criteria, including expertise in influencer-related topics for the experts and regular use of TikTok for the user group. This pretest aimed to validate the questionnaire's suitability for our research objectives (Liébana-Cabanillas et al., 2021).

The participant engagement process comprised four distinct phases. Initially, potential participants received invitation links to take part in our research. After accepting the invitation, they were directed to watch a video featuring a prominent TikTok influencer. To encourage full engagement with the video, participants were informed in advance that they would need to provide a code displayed at the end of the video. This approach has been validated in prior studies and is known to enhance both conscious and unconscious information processing, ultimately improving recall and result reliability (Liébana-Cabanillas et al., 2018).

In the third phase, participants were queried about their TikTok experiences and requested to complete the questionnaire. Additionally, they were encouraged to extend email invitations to their contacts, inviting them to take part in our study.

The survey was conducted between January and February of 2023, involving an initial sample of 1067 Spanish TikTok users who followed influencers. Following a stringent filtering process that excluded participants with irregular response patterns, incomplete responses, unusually high or low response times, or outliers, we arrived at a final sample size of 880 TikTok users who followed influencers. Among these participants, 69% identified as female, and 31% as male. It is important to note that this gender distribution closely aligns with TikTok's user profiles in Spain, as reported by The Social Family (2023).

4.3. Confirmatory factor analysis of the measurement instruments

The questionnaire's validity and reliability, along with hypothesis testing, were conducted using SPSS and Amos statistical software. Confirmatory factor analysis (CFA), following Suhr's (2006) suggested approach, was employed to assess construct validity. Convergent validity was evaluated using composite reliability (CR) and average variance extracted (AVE) as recommended by Bagozzi and Yi (1988) and Hair et al. (2012). Items with individual reliability below 0.50 were initially excluded, and subsequent estimation demonstrated a favorable goodness of fit, as presented in Table 4 (in Appendix 2, we have included the descriptive statistics of each item).

To assess discriminant validity, the study employed square root of AVE, as recommended by Fornell and Larcker (1981) and Hair et al. (2010) (See Table 5). The assessment of item-level multicollinearity has

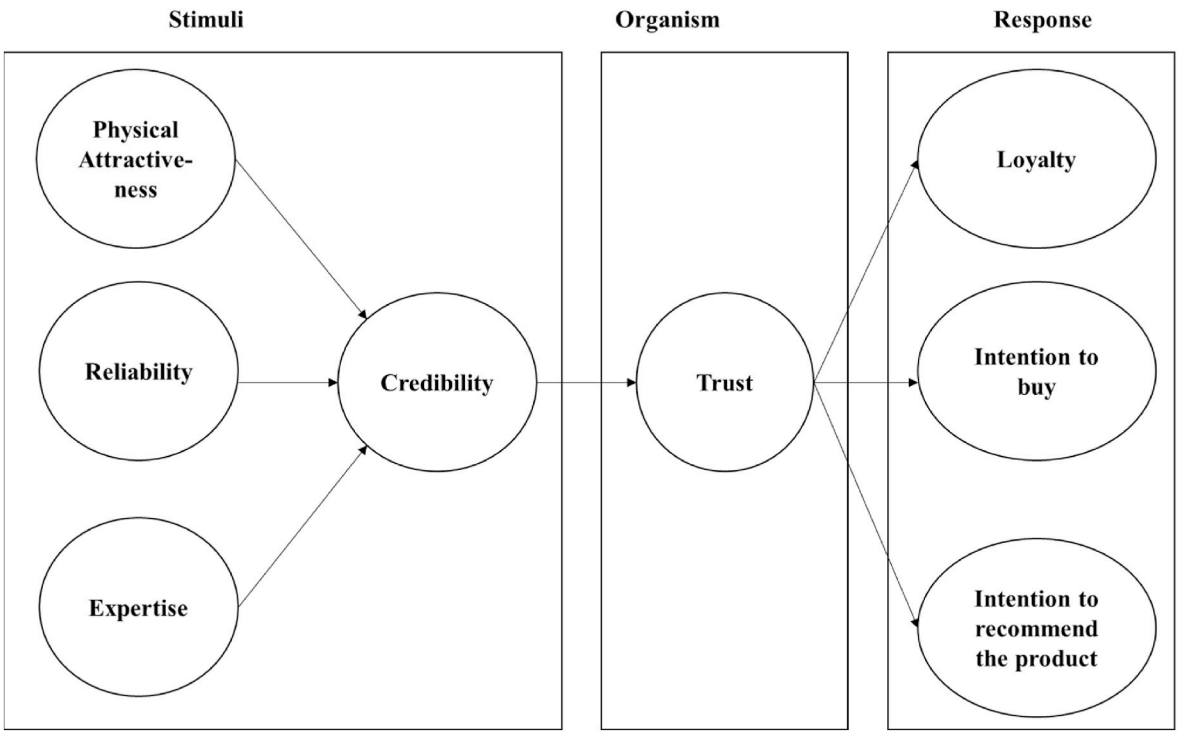

Fig. 2. Theoretical model.

Table 2
Demographic information.

Ítem		N	%
Gender	Male	273	31,02
	Female	607	68,98
Age	57–75	5	0.57
	41–56	91	10.34
	26–40	63	7,16
	18–25	60	6,82
Educational level	High school diploma	60	6,82
	Technical education	215	24,43
	University education	605	68,75
Occupation	Student	456	51,82
	Professional	211	23,98
	Government employee	67	7,61
	Business owner	106	12,05
	Unemployed	40	4,55

been included in Appendix 1.

4.4. Testing of hypothesis through SEM

The hypotheses underwent a thorough examination using structural equation modeling (see Fig. 3). The model was deemed to be a good fit based on various measures, including a CMIN of 359.10, DF of 293, X2/df of 1.22, RMSEA of 0.02, NFI of 0.93, GFI of 0.905, CFI of 0.935, IFI of 0.910, and TLI of 0.926. Among the five tested effects, four showed statistically significant results. The independent variables were found to account for a high percentage of the variance in Credibility (65.6%).

As observed, all proposed hypotheses are confirmed. Furthermore, considering the relationships in H1, H2, and H3, which hypothesize the effects of Physical Attractiveness (Estimated Regression Weight = 0.038, Standard Error = 0.017), Reliability/Honesty (Estimated Regression Weight = 0.332, Standard Error = 0.033), and Expertise in the Subject (Estimated Regression Weight = 0.443, Standard Error = 0.035) on the Credibility of the influencer, it can be affirmed that the proposed relationship with H3 is significantly stronger than the other two. Thus, the credibility of the influencer is primarily constructed through their expertise in the subject, followed by reliability/honesty, and lastly, physical attractiveness.

Continuing with the analysis of the group, it is observed that Credibility has a positive and direct influence on the trust that individuals have in the influencer. This trust, in turn, affects three elements that collectively could be identified with Brand Equity, namely Loyalty (Estimated Regression Weight = 0.84, Standard Error = 0.057), Intention to Purchase the Product Recommended by the Influencer (Estimated Regression Weight = 0.767, Standard Error = 0.059), and Word-of-Mouth (WOM) (Estimated Regression Weight = 0.767, Standard Error = 0.062). The relationship with the highest significance is the first one, indicating the influence of trust in the influencer on loyalty, followed by the other two relationships, which do not exhibit significant differences between them.

4.5. Deep-learning artificial neural network model

One of the drawbacks of SEM, as a very popular solution in consumer behavior studies, is that it is a linear technique, as it assumes linear relationships among variables (Wang et al., 2023; Xiong et al., 2022). In reality, these relationships are often non-linear (Singh et al., 2021), which suggests the introduction of an additional technique, capable of dealing with non-linear relationships among variables (Liébana-Cabanillas et al., 2017; Parhi et al., 2022). In our research model, particularly interesting is the part with the predictors of Credibility, because different rank of influence of its predictors would imply different strategy in problem solving. Therefore, the linearity of the relationships between Credibility and its three predictors was tested using ANOVA Test of Linearity (Leong et al., 2023; Liébana-Cabanillas et al., 2021) and the test results are shown in Table 6.

The results indicate that there is a statistically significant non-linear component i.e. deviation from linearity in all three tested relationships, which justifies the introduction of Artificial Neural Networks (ANNs), an additional technique capable to analyze models with non-linear relationships (Sternad Zabukovšek et al., 2019). The main benefits of the introduction of ANN model are that it will validate the results obtained

Table 3
Scales.

Construct	Ítems
Physical attractiveness Sokolova and Kefi (2020), adaptaded from Ohanian (1990)	A1: Attractive A2: Classic A3: Handsome A4: Elegant A5: Sexy
Reliability Sokolova and Kefi (2020), adaptaded from Ohanian (1990)	RE1: Reliable RE2: Honest RE3: Loyal RE4: Sincere RE5: Faithful
Expert Sokolova and Kefi (2020), adaptaded from Ohanian (1990)	EX1: Specialist in the field EX2: Experienced in the field EX3: Entrepreneurial EX4: Qualified EX5: Talented
Credibilitiy fo the influencer Sokolova and Kefi (2020), adapted from McCroskey and Teven (1999)	CRED1: Perceived expertise of the influencer CRED2: Perceived effectiveness of the influencer in their work CRED3: Perceived trustworthiness of the influencer CRED4: Belief that the influencer cares about their followers CRED5: Regular updating of content by the influencer
Trust Sirdeshmukh et al. (2002), adapted from Doney and Cannon (1997)	T1: The influencer generally fulfills their commitments T2: The information provided by the influencer is sincere and honest T3: I can trust the promises made by the influencer
Loyalty Adapted from Eyal and Rubin (2003) and Ohanian (1990)	LOY1: The influencer thinks like me LOY2: The influencer shares my values LOY3: I look forward to their videos, reading their posts and comments LOY4: I would follow and engage with them on other social media platforms
Intention See-To and Ho (2014), Putrevu and Lord (1994), Taylor and Baker (1994)	INT1: I would purchase the products endorsed by the influencer INT2: I would encourage people close to me to buy the products promoted by the influencer INT3: I would consider buying this product INT4: I have no intention of buying this product INT5: I might buy this product INT6: I will buy this brand the next time I need a product INT7: If I'm in need, I would buy this product
WOM Adapted from Xia and Bechwati (2008), Zheng et al. (2011)	WOM1: I would consider recommending the product shown by the influencer WOM2: I am very likely to recommend the product shown by the influencer WOM3: I intend to recommend the product shown by the influencer WOM4: I am determined to recommend the product shown by the influencer

by SEM (Liébana-Cabanillas et al., 2018), but also it will more precisely rank the influence of Credibility's predictors, as ANN models are known to be more accurate and robust to their linear counterparts (Kalinić et al., 2021; Lee et al., 2022).

Although ANNs are one of the most promising areas in Artificial Intelligence, with many different types and applications (Albahri et al., 2022; Kalinić et al., 2021; Higueras-Castillo et al., 2023), the most common and widely used ANN model in technology acceptance studies is multilayer perceptron (MLP) (Liébana-Cabanillas et al., 2017; Wang et al., 2022). Generally, each ANN model has several hyperparameters to select/tune, such as number of hidden layers, number of neurons in hidden layers, activation functions of neurons in hidden and output layers, type of training, optimization algorithm, ratio between training and testing subsets, etc., and this task is not always straightforward. For example, MLP models consist of several layers: one input, with as many neurons as there are inputs to the model; one output, with as many neurons as there are outputs from the model, and one or more hidden layers. ANN models with two or more hidden layers are called "deep", as they enable modelling of more complex dependences and deep-learning. But, too complex models, i.e. with too many hidden layers and hidden neurons require more data and computing power for model training and testing and can cause some other problems (Kalinić et al., 2021), so there should be a compromise between problem complexity and ANN model complexity. In this research, deep-learning ANN model with two hidden layers was adopted (Chong et al., 2023; Khan et al., 2022; Lee et al., 2020), while the number of the neurons was determined automatically, by the simulation software – IBM SPSS 20 (Sternad Zabukovšek et al., 2022; Xu et al., 2023). Sigmoid was used as an activation function, in both hidden and output layers (Arpaci et al., 2022; Kalinić et al., 2021). Finally, batch approach was selected as a type of training, and scaled conjugate gradient was adopted as an optimization algorithm. The ANN simulation model is shown in Fig. 4.

In order to be applied to the ANN model, data was preprocessed: the values of inputs and the output were calculated as averages of responses to the items of each variable. In addition, to obtain better model performance, the values of all input and output variables were normalized (Kalinić et al., 2019a).

One of the common issues with ANN models is overfitting (Kalinić et al., 2019a), when complex ANN model memorizes relatively small number of training examples, and therefore its testing and operational performances are poor, because the model loses its generalization capabilities (Pozón-López et al., 2020). One of the solutions to the overfitting problem is ten-fold cross validation procedure (Chong et al., 2023; Liébana-Cabanillas et al., 2021), which was implemented in this case. Ninety percent of the research sample was used for model training and the remaining ten percent for its testing (Pozón-López et al., 2020; Tewari et al., 2022). Predictive accuracy of the deep-learning ANN model is often estimated using Root Mean Square of Error (RMSE) (Kalinic et al., 2019; Lo et al., 2022), and its values for training and testing data, for different simulation runs, are shown in Table 7.

The deep-learning artificial neural network (ANN) model demonstrates outstanding predictive capabilities, as evidenced by the low RMSE values for both training and testing (Al-Sharafi et al., 2022; Sternad Zabukovšek et al., 2022). This model exhibits great potential for future investigations. Furthermore, the model's performance was assessed using the goodness-of-fit R^2 metric (Higueras-Castillo et al., 2020; Phillips et al., 2015). The R^2 value of 0.886 indicates that the deep-learning ANN simulation model can account for 88.6% of the total

Table 4
Confirmatory factor analysis of the measurement scales.

AFC-Final	Item	Stimate Coef	Stand. Coef	R^2	α Cronbach	CR	AVE
Physical attractiveness	A1	*	0.807	0.652	0.86	0.866	0.683
	A3	1.029	0.846	0.716			
	A5	0.939	0.825	0.680			
Reliability	RE2	*	0.808	0.781	0.85	0.882	0.714
	RE3	0.953	0.841	0.707			
	RE4	0.990	0.884	0.654			
Expertise in the subject	EX1	*	0.889	0.764	0.87	0.875	0.777
	EX2	1.037	0.874	0.791			
Credibility	CRE1	1.188	0.729	0.531	0.80	0.782	0.545
	CRE2	1.122	0.730	0.533			
	CRE3	*	0.755	0.569			
Trust in influencer	T1	*	0.718	0.546	0.80	0.796	0.565
	T2	0.960	0.796	0.633			
	T3	1.160	0.739	0.817			
Loyalty	LOY1	*	0.722	0.522	0.81	0.828	0.619
	LOY2	0.913	0.720	0.519			
	LOY3	1.393	0.904	0.817			
Intention	INT1	*	0.807	0.651	0.91	0.929	0.725
	INT2	1.103	0.812	0.659			
	INT3	1.053	0.904	0.817			
	INT4	1.133	0.927	0.859			
WOM	WOM1	*	0.813	0.660	0.94	0.951	0.830
	WOM2	1.148	0.939	0.881			
	WOM3	1.147	0.963	0.927			
	WOM4	1.168	0.921	0.849			

X^2 BS = 336.94; df = 273; Ajusted X^2 = 1.23; RMSEA BS = 0.032; NFI:0.95; NNFI:0.94; CFI:0.97.

Table 5
Discriminant validity.

	WOM	A	RELIA	TRUST	LOY	INT	EX	CRED
WOM	*0.911*							
A	0.034	*0.826*						
RELIA	0.180	0.069	*0.845*					
TRUST	0.374	0.057	0.662	*0.752*				
LOY	0.586	0.190	0.488	0.614	*0.787*			
INT	0.698	0.086	0.268	0.450	0.459	*0.852*		
EX	0.091	−0.205	0.628	0.500	0.245	0.179	*0.882*	
CRED	0.094	−0.077	0.654	0.576	0.460	0.122	0.701	*0.738*

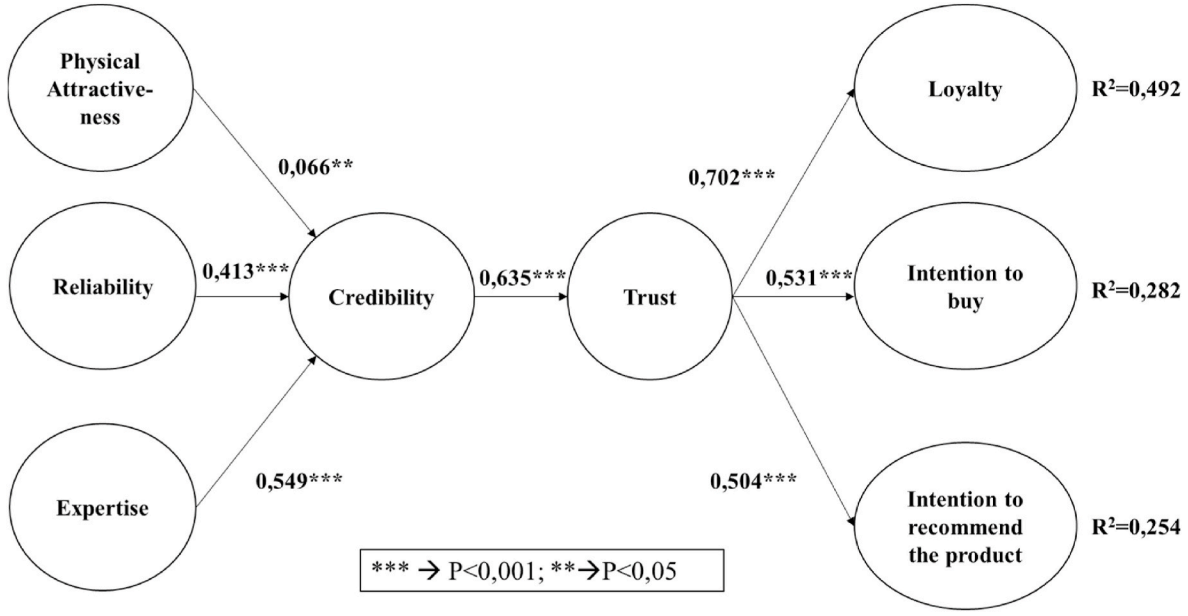

Fig. 3. Results model.

Table 6
ANOVA test of linearity.

	Sum of Squares	df	Mean Square	F	Sig.	Deviation from Linearity
Credibility * Physical attractiveness	37.612	16	2.351	2.652	.001	YES
Credibility * Reliability	38.805	13	2.985	6.211	.000	YES
Credibility * Expertise	18.719	9	2.080	2.839	.004	YES

variance in Credibility, highlighting its exceptional predictive qualities (Akour et al., 2022; Singh et al., 2021).

To further ascertain the influence of each predictor, a sensitivity analysis was conducted (Duc et al., 2023; Kalinic et al., 2019; Ng et al., 2022). The simulation results, presented in Table 8, provide a more precise ranking of the predictors' impact.

The most significant predictor of Credibility is Reliability, which is in line with previous SEM results. Expertise is second in order, with approx. 40% of the influence of the Reliability, which again is in line with SEM findings. Finally, Physical Attractiveness has the least significant influence by both, SEM and ANN, findings, but while by SEM results it has slightly lower influence than Expertise, the ANN results show that its significance is approx. twice lower than Expertise's. These differences originate from the fact that the deep-learning ANN model takes into account existing non-linear effects among variables, and therefore it is more accurate than SEM model (Liébana-Cabanillas et al., 2021).

5. Discussion and implications

5.1. Conclusion

In our research, we have delved into the intricate web of influencer marketing on TikTok, uncovering valuable insights into the factors that drive influencer loyalty, purchase intentions, and the potential ripple effect of product recommendations. Our integration of the SOR model and the Commitment-Trust Theory has allowed us to examine the interactions between stimulus, the organism, and the responses that transpire in this unique digital realm.

The findings of our study have highlighted the multi-dimensional nature of influencer-follower relationships on TikTok. Beyond the mere transactional aspects of marketing, these relationships are deeply rooted in the human experience. Influencers play the role of digital storytellers, weaving narratives that resonate with their audience on a personal level. They form bonds based on trust and shared values, thus yielding greater influencer loyalty and fostering a stronger commitment between influencers and their followers.

Table 7
RMSE values of ANN models.

Network	Inputs: Physical Attractiveness, Reliability, Expertise; Output: Credibility	
	Training	Testing
1	0.1216	0.0828
2	0.1282	0.1126
3	0.1169	0.1451
4	0.1215	0.1014
5	0.1260	0.1029
6	0.1204	0.1095
7	0.1237	0.1122
8	0.1165	0.1383
9	0.1240	0.1064
10	0.1165	0.1357
Mean	0.1215	0.1147
Standard deviation	0.0041	0.0193

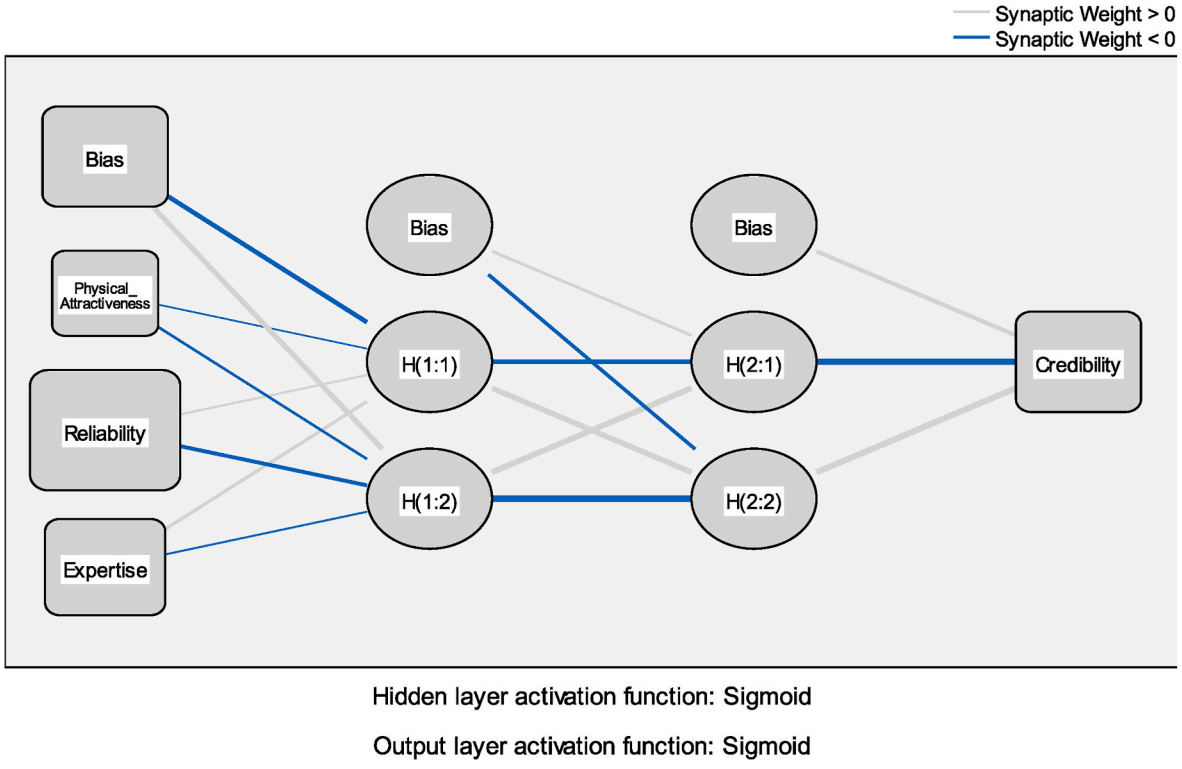

Fig. 4. ANN model.

Furthermore, our research demonstrates the pivotal role that influencer marketing can play in shaping purchase intentions and product recommendations. Followers on TikTok not only view influencers as trendsetters but also as credible sources of information. The authenticity and trust established by influencers can significantly sway the decisions of their followers, leading to increased purchase intentions and the potential for enthusiastic product endorsements.

As TikTok continues to evolve and establish itself as a formidable force in the social media landscape, influencer marketing on this platform remains dynamic and potent. We believe that our study's insights can guide brands and marketers in harnessing the full potential of influencer marketing on TikTok. By recognizing the importance of authenticity, emotional connections, and trust-building, they can forge enduring relationships with influencers and their followers, ultimately reaping the rewards of enhanced loyalty, increased sales, and an expanded reach in the ever-competitive digital marketplace.

5.2. Theoretical implications

The importance of influencer marketing has been demonstrated in recent research (Fowler and Thomas, 2023) highlighting its significance for business strategy (Vrontis et al., 2021) and specifically in marketing strategies (Kanaveedu and Kalapurackal, 2022), although gaps in knowledge still exist (Leung et al., 2022a,b).

This study provides several theoretical implications by proposing a holistic model that defines the antecedents of influencer loyalty, purchase intention, and recommendation intention in influencer marketing actions on the TikTok social media platform.

To address the research objectives, the study proposes a specific causal model for these target variables, explaining 0.492% of loyalty, 0.282% of intention, and 0.254% of recommendation. All the proposed relationships in the model were found to be significant, and the model fit was optimal (RMSEA = 0.02).

In relation to the first research question, which examines the antecedents of credibility as explored by Özbölük and Akdoğan (2022), it can be inferred that influencer expertise emerges as the foremost factor highly esteemed by users in bolstering credibility. Subsequently, reliability and honesty represent another significant dimension in this regard, while physical attractiveness assumes a somewhat lesser role. It is noteworthy that the landscape of fame has evolved, as traditional celebrities traditionally garnered recognition through their professional endeavors, whereas influencers have ascended to prominence as social media experts (Khamis et al., 2017). Furthermore, the facet of reliability plays a pivotal role in shaping influencer credibility. In the realm of online communication, facets pertaining to quality, information reliability, and the credibility of the information source are fundamental elements in sustaining message congruence (Ki et al., 2020). Lastly, the aspect of physical attractiveness cannot be underestimated, as it influences the initial judgments formed by receivers (Joseph, 1982) and subsequently impacts their agreement with the presented opinions (Chaiken, 1979).

The second research question centers on the analysis of credibility as a precursor to trust in TikTok influencers. This inquiry is in alignment with the findings of Kim and Kim (2021) and Sokolova and Kefi (2020), both of which have established that source credibility holds the potential to bolster persuasion effectiveness and listener defense through trust, in accordance with the principles outlined by Hovland and Weiss (1951).

On the other hand, regarding the role of trust in shaping the perception of TikTok influencers by their followers as a precursor to loyalty, purchase intention, and product recommendation intention, our empirical findings corroborate these relationships in a descending order of significance. Trust in influencers assumes a pivotal role in cultivating follower loyalty and driving purchase intentions, a phenomenon that has also been noted in the research of Kim and Kim (2021), Chopra et al. (2021), and Zhou et al. (2023). Followers place their trust in influencers as they anticipate positive outcomes in their relationship, which in turn reinforces their commitment and loyalty to the influencer. Additionally, trust in influencers significantly amplifies the effectiveness of communication efforts, particularly in the promotion of recommended products. By establishing trust-based relationships, influencers are able to foster favorable social exchanges with their followers, thereby ensuring sustained engagement and influencing purchasing decisions. Lastly, trust also plays a pivotal role in the intention to recommend a product, contingent upon the source's relevance, as previously discussed (Barta et al., 2021).

In conclusion, this research underscores the applicability of a two-stage approach that marries Structural Equation Modeling (SEM) and Artificial Neural Networks (ANN) techniques, an approach that enriches the evaluation of technology adoption and innovation models. In this case, it elucidates the pivotal role of influencer marketing on TikTok. While ANN results reaffirm the SEM findings regarding the ranking of influence of all credibility predictors, they notably report a diminished significance of physical attractiveness compared to the SEM outcomes. This divergence is attributed to the heightened performance of non-linear ANN models, as expounded by Liébana-Cabanillas et al. (2021).

Table 8
ANN sensitivity analysis.

Network	ANN model		
	Relative importance		
	Physical Attractiveness	Reliability	Expertise
1	0.116	0.637	0.247
2	0.117	0.571	0.312
3	0.149	0.604	0.247
4	0.142	0.644	0.214
5	0.090	0.577	0.334
6	0.145	0.638	0.217
7	0.141	0.603	0.256
8	0.136	0.603	0.261
9	0.114	0.655	0.231
10	0.139	0.657	0.204
Average importance	0.129	0.619	0.252
Normalized importance (%)	20.8	100.0	40.8

5.3. Practical implications

Alongside the theoretical findings, this study holds practical implications for managing influencer marketing on the TikTok platform. The results offer valuable insights that brands and companies can utilize to enhance their marketing strategies on this popular platform.

First and foremost, it is crucial for brands to meticulously select credible and trustworthy influencers for collaborations on TikTok. Evaluating an influencer's credibility involves considering their expertise, knowledge, and perceived reliability by the audience. Additionally, assessing an influencer's trustworthiness, which pertains to their ethical behavior and ability to fulfill promises, is essential. By partnering with influencers who possess high credibility and trust, brands can enhance the positive perception of their message, reinforce consumer trust, and foster greater brand loyalty. To achieve this, influencers can implement strategies that promote authentic and transparent content, including the creation of human-centered content that enhances credibility. This could involve incorporating customer opinions and testimonials (reviews), fostering collaborations with trustworthy influencers who have a solid reputation and credibility on TikTok to endorse the product or service credibly and reach a relevant audience. Moreover, increasing transparency in business practices by clearly communicating policies and commercial practices, encouraging interactions and active engagement by responding proactively to user comments and questions in a genuine manner, offering exclusive deals and promotions to TikTok followers to stimulate purchase intent and generate positive

conversations, utilizing the Stories format to showcase behind-the-scenes processes, product updates, and information that helps establish a deeper connection with the audience. Finally, using TikTok's analytics tools to assess the performance of published content, learning which types of content and strategies generate more interaction and trust among followers and brands.

Furthermore, brands should not only assess an influencer's popularity and reach but also their capacity to generate authenticity and emotional connections with the audience. It is imperative to choose influencers whose values and communication style align with the brand's identity to maximize the impact and effectiveness of influencer marketing campaigns. By doing so, brands can establish a stronger emotional connection with the audience, leading to increased consumer loyalty.

Another critical aspect is encouraging influencers to create authentic and genuine content that reflects their values and lifestyle in an honest manner. Avoiding excessive promotion and allowing influencers to express their personal opinions facilitate an emotional connection with the audience and build a solid foundation of trust. This, in turn, positively influences followers' purchase intentions and their likelihood to recommend the brand.

On the other hand, TikTok users highly value authenticity and transparency in influencer posts. Brands should promote genuine and honest content that does not come across as mere product promotion. This involves giving influencers the freedom to express their voice and opinions authentically, without exerting excessive control over the content. By fostering authentic relationships between influencers and their audience, brands can strengthen trust and increase follower loyalty.

Similarly, a long-term relationship between influencers and brands can positively impact consumer loyalty. Companies should consider establishing ongoing collaboration agreements with influencers who have demonstrated a high level of commitment and affinity with the brand. These long-term partnerships can further strengthen the emotional connection with the audience, leading to repeat purchases and an increased intention to recommend the brand.

Lastly, while purchase intention is a vital variable, brands should recognize that influencer marketing on TikTok can yield benefits beyond immediate sales. Followers' intention to recommend the brand can create a multiplier effect, expanding the brand's reach and attracting new consumers. It is essential to monitor and evaluate both the direct and indirect impacts of influencer marketing campaigns, utilizing relevant metrics to assess the value generated in terms of brand recognition, audience engagement, and follower growth.

In summary, this research provides practical implications for the effective management of influencer marketing on TikTok. By selecting credible influencers, encouraging authenticity and transparency, fostering long-term relationships, and considering broader brand impacts, companies can enhance their marketing strategies and achieve greater success on this platform.

5.4. Limitations and avenues for future research

This study is subject to several limitations that may have influenced the findings and suggests directions for future research. Firstly, the research's scope concentrates solely on influencer marketing on the TikTok platform, potentially limiting the generalizability of the results. Future studies should consider conducting comparative analyses across various social media platforms to facilitate result comparisons.

Secondly, the research design employed in this study is cross-sectional, restricting the findings to a specific moment in time. Therefore, future investigations could adopt a longitudinal approach to examine the proposed relationships between the variables over an extended period.

Thirdly, the sample used in this study is confined to a single country, constraining the generalizability of the findings to other cultural contexts. Subsequent research could incorporate cross-cultural analyses to identify potential variations in the results across different countries.

Fourthly, this paper has only considered influencer characteristics as determinants of influencer marketing effectiveness, measured through intention, without taking into account other factors identified by the literature, such as content characteristics and consumer traits (Hudders et al., 2021; Sundermann and Raabe, 2019; Ye et al., 2021). This provides an opportunity for further research along similar lines, addressing other determinant approaches in the future. Additionally, future studies could consider expanding the number of variables investigated, acknowledging potential challenges in applying certain analyses, such as ANN. Moreover, exploring alternative machine learning techniques like XG-Boost could provide a robust framework for modeling complex issues.

Fifth, the proposed model incorporates the use of two theories recognized in the scientific literature. However, future research could consider the inclusion of different theories (Saheb et al., 2022) or even propose a new theory to further expand scientific knowledge in this discipline.

Lastly, to attain a more comprehensive understanding of the findings, it would be valuable to explore the moderating effect of socio-demographic variables (e.g., age, gender, social media experience) to identify potential market segmentation strategies for companies utilizing influencer marketing as a commercial tool.

By addressing these limitations and pursuing the suggested avenues for future research, scholars can contribute to an enhanced understanding of influencer marketing and its effectiveness across various platforms, cultural contexts, and demographic segments.

Declaration of competing interest

The authors declare that they have no conflict of interest.

Data availability

The authors do not have permission to share data.

Appendix A. Supplementary data

Supplementary data to this article can be found online at https://doi.org/10.1016/j.jretconser.2024.103709.

Appendix 1. Item-wise multicollinearity assessment

	A1	A3	A5	RE2	RE3	RE4	EX1	EX2	CRED1	CRED2	CRED3	TRUST1	TRUST2	TRUST3	LOY1	LOY2	LOY3	INT1	INT2	INT3	INT4	WOM1	WOM2	WOM3	WOM4
A1	1,000	0,687	0,655	−0,060	0,138	−0,034	−0,167	−0,215	−0,156	−0,153	0,016	−0,016	0,002	0,124	0,191	0,161	0,142	0,244	0,048	0,113	0,139	0,099	0,116	0,113	0,077
A3	0,687	1000	0,703	0,003	0,177	−0,012	−0,109	−0,155	−0,128	−0,049	0,076	−0,022	−0,050	0,128	0,166	0,154	0,042	0,108	−0,004	0,029	0,011	0,009	0,015	0,009	−0,015
A5	0,655	0,703	1000	−0,003	0,223	0,007	−0,118	−0,139	−0,128	−0,021	0,058	0,025	0,047	0,119	0,257	0,239	0,100	0,079	0,031	0,033	−0,004	−0,051	−0,020	−0,015	−0,029
RE2	−0,060	0,003	−0,003	1000	0,646	0,769	0,503	0,579	0,274	0,332	0,676	0,325	0,587	0,411	0,372	0,413	0,264	0,188	0,190	0,109	0,141	0,133	0,077	0,076	0,083
RE3	0,138	0,177	0,223	0,646	1000	0,580	0,352	0,378	0,227	0,289	0,484	0,337	0,420	0,385	0,554	0,483	0,365	0,313	0,268	0,223	0,244	0,240	0,230	0,225	0,161
RE4	−0,034	−0,012	0,007	0,769	0,580	1,000	0,437	0,459	0,323	0,357	0,586	0,238	0,497	0,385	0,401	0,330	0,188	0,164	0,216	0,193	0,257	0,167	0,170	0,137	0,117
EX1	−0,167	−0,109	−0,118	0,503	0,352	0,437	1,000	0,777	0,626	0,522	0,496	0,233	0,426	0,161	0,212	0,171	0,178	0,136	0,135	0,130	0,101	0,197	0,093	0,063	0,032
EX2	−0,215	−0,155	−0,139	0,579	0,378	0,459	0,777	1,000	0,501	0,478	0,526	0,317	0,515	0,229	0,249	0,238	0,129	0,132	0,247	0,183	0,124	0,180	0,059	0,063	0,083
CRED1	−0,156	−0,128	−0,128	0,274	0,227	0,323	0,626	0,501	1,000	0,675	0,473	0,205	0,340	0,217	0,315	0,127	0,193	0,092	0,151	0,100	0,059	0,231	0,138	0,073	0,022
CRED2	−0,153	−0,049	−0,021	0,332	0,289	0,357	0,522	0,478	0,675	1,000	0,501	0,220	0,317	0,171	0,182	0,170	0,170	−0,034	−0,041	0,007	−0,036	−0,019	−0,032	−0,074	−0,093
CRED3	0,016	0,076	0,058	0,676	0,484	0,586	0,496	0,526	0,473	0,501	1,000	0,326	0,556	0,398	0,460	0,495	0,416	0,237	0,254	0,130	0,131	0,275	0,187	0,144	0,085
TRUST1	−0,016	−0,022	0,025	0,325	0,337	0,238	0,233	0,317	0,205	0,220	0,326	1,000	0,554	0,658	0,297	0,233	0,301	0,264	0,339	0,223	0,300	0,279	0,247	0,177	0,194
TRUST2	0,002	−0,050	0,047	0,587	0,420	0,497	0,426	0,515	0,340	0,317	0,556	0,554	1,000	0,517	0,462	0,485	0,408	0,380	0,355	0,301	0,320	0,284	0,218	0,218	0,165
TRUST3	0,124	0,128	0,119	0,411	0,385	0,385	0,161	0,229	0,217	0,171	0,398	0,658	0,517	1,000	0,415	0,347	0,405	0,335	0,433	0,197	0,312	0,412	0,429	0,374	0,354
LOY1	0,191	0,166	0,257	0,372	0,554	0,401	0,212	0,249	0,315	0,182	0,460	0,297	0,462	0,415	1,000	0,744	0,540	0,389	0,338	0,252	0,279	0,345	0,358	0,381	0,330
LOY2	0,161	0,154	0,239	0,413	0,483	0,330	0,171	0,238	0,127	0,170	0,495	0,233	0,485	0,347	0,744	1000	0,556	0,372	0,338	0,267	0,247	0,242	0,351	0,363	0,295
LOY3	0,142	0,042	0,100	0,264	0,365	0,188	0,178	0,129	0,193	0,170	0,416	0,301	0,408	0,405	0,540	0,556	1000	0,388	0,428	0,315	0,315	0,503	0,542	0,513	0,452
INT1	0,244	0,108	0,079	0,188	0,313	0,164	0,136	0,132	0,092	−0,034	0,237	0,264	0,380	0,335	0,389	0,372	0,388	1000	0,706	0,726	0,742	0,521	0,505	0,479	0,421
INT2	0,048	−0,004	0,031	0,190	0,268	0,216	0,135	0,247	0,151	−0,041	0,254	0,339	0,355	0,433	0,338	0,338	0,428	0,706	1000	0,729	0,707	0,686	0,663	0,602	0,581
INT3	0,113	0,029	0,033	0,109	0,223	0,193	0,130	0,183	0,100	0,007	0,130	0,223	0,301	0,197	0,252	0,267	0,315	0,726	0,729	1000	0,871	0,578	0,572	0,515	0,462
INT4	0,139	0,011	−0,004	0,141	0,244	0,257	0,101	0,124	0,059	−0,036	0,131	0,300	0,320	0,312	0,279	0,247	0,315	0,742	0,707	0,871	1000	0,603	0,638	0,578	0,533
REC1	0,099	0,009	−0,051	0,133	0,240	0,167	0,197	0,180	0,231	−0,019	0,275	0,279	0,284	0,412	0,345	0,242	0,503	0,521	0,686	0,578	0,603	1000	0,835	0,754	0,691
REC2	0,116	0,015	−0,020	0,077	0,230	0,170	0,093	0,059	0,138	−0,032	0,187	0,247	0,218	0,429	0,358	0,351	0,542	0,505	0,663	0,572	0,638	0,835	1000	0,894	0,846
REC3	0,113	0,009	−0,015	0,076	0,225	0,137	0,063	0,063	0,073	−0,074	0,144	0,177	0,218	0,374	0,381	0,363	0,513	0,479	0,602	0,515	0,578	0,754	0,894	1000	0,915
REC4	0,077	−0,015	−0,029	0,083	0,161	0,117	0,032	0,083	0,022	−0,093	0,085	0,194	0,165	0,354	0,330	0,295	0,452	0,421	0,581	0,462	0,533	0,691	0,846	0,915	1000

Appendix 2. Items Descriptive statistics

	Means	Median	Skewness
A1	3,336364	4.00	0.257
A3	3,400000	3.50	0.192
A5	3,163636	3.00	0.346
RE2	5,436364	6.00	−0.776
RE3	4,754545	4.50	−0.249
RE4	5,445455	6.00	−0.767
EX1	5,518182	6.00	−0.661
EX2	5,654545	6.00	−1.090
CRE1	5,527273	6.00	−0.873
CRE2	5,590909	6.00	−1.196
CRE3	5,754545	6.00	−1.011
T1	5,363636	6.00	−0.839
T2	5,745455	6.00	−0.979
T3	4,918182	5.00	−0.425
LOY1	4,727273	5.00	−0.533
LOY2	4,863636	5.00	−0.605
LOY3	4,700000	5.00	−0.468
INT1	4,490909	5.00	−0.649
INT2	4,127273	4.00	−0.403
INT3	4,790909	5.00	−0.878
INT4	4,618182	5.00	−0.659
WOM1	4,563636	5.00	−0.653
WOM2	4,536364	5.00	−0.568
WOM3	4,318182	4.00	−0.409
WOM4	4,054545	4.00	−0.290

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